

Asphalt volcanoes discovered

By Icess Fernandez Caller-Times
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Two Texas A&M University-Corpus Christi professors discovered the existence of asphalt volcanoes in the Gulf of Mexico, resulting in the first major publication for the Harte Research Institute for Gulf of Mexico Studies



Contributed photo
An asphalt flow

The discovery will be outlined in an article in the May 14 issue of Science magazine.

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Ian MacDonald and Thomas Naehr, professors of physical and life sciences, participated in an October expedition to study the Gulf of Mexico's ecosystem.

The professors joined scientists from Germany and Mexico aboard the R/V Sonne, a German research vessel from the University of Bremen.

While on board, the scientists discovered the asphalt volcanoes in Campeche Knolls in the southern Gulf of Mexico, northwest of the Yucatan.

The crew used a camera sled, a camera attached to a crane that shows the ocean floor, to aid in their research.

MacDonald said the seafloor is teeming with microscopic life.

The crew chose several areas to explore using a topographical map collected by Canadian satellites. The crew went to the places where the map said oil was on the ocean's surface.

At the first location, the group of scientists saw domes and hills. The images from the camera sled showed some domes were split in half, while others had craters. But the domes proved insignificant to their research, MacDonald said.

'Like toothpaste'

The scientists picked another place to search - near the Campeche Knolls. It was there the discovery was made about 1 a.m. on Nov. 1, 2003.

"We saw a cluster of two shrimps by this rock-like material that looked like it was squeezed like toothpaste from a tube," MacDonald said.

Another scientist said it looked like asphalt. Samples of the material were taken and after examination, scientists determined the rock was asphalt.

MacDonald and the scientists determined that the asphalt had gone through many types of forms and temperatures.

There were cracks in the asphalt signifying the asphalt had cooled quickly.

The material was found in pillows, indicating to the scientists that the material was once in a liquid form.

"We don't understand how this asphalt transformed," he said. "Asphalt should be inert, but it clearly was not."

What scientists still need to answer is how the asphalt got there and how it flowed, MacDonald said.

The volcanoes also are home to creatures such as various types of shrimp, mussels, worms and clams. These creatures live off the chemicals given off by the oil and asphalt.

"I think we will find that these animals are similar to the ones found in the Northern Gulf," MacDonald said.

Scientists called the discovery site Chapopote, the Nahuatl word for tar.

Benefits of the discovery

The discovery will also help the Harte Research Institute as it begins to catalog marine life in the Gulf. The institute, on the campus of A&M-Corpus Christi, was founded in 2000 with a \$46 million endowment from former Caller-Times publisher Edward H. Harte.

One of the goals of the Harte Institute is to update the U.S. Fish and Wildlife Bulletin, The Gulf of Mexico - Its Origin, Waters and Marine Life, in the next two years.

Wes Tunnell, associate director and research scientist, said the knowledge gained by the discovery will benefit the organization and the scientific community.

"This is the kind of thing that is exposed through exploration of the Gulf of Mexico," he said. "This discovery is a feather in the hat for the institute, the scientists and the university. With discoveries like this, we gain more knowledge about the Gulf of Mexico and know how to take better care of it."

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